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Client/Matter: 071469-0304322

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REMARKS

Claims 13-15, 17-18, and 27 are amended hereby. No claims are canceled. Accordingly, after entry of this Amendment, claims 1-31 will remain pending. Since claims 1-12, 23-26, and 30-31 have been withdrawn from further consideration, claims 13-22 and 27-29 are currently being examined.

In the Office Action dated April 18, 2006, the Examiner acknowledged the Applicant's election of the claims in Group II, without traverse. Group II encompasses claims 13-22 and 27-29, which are the claims currently being examined.

In the Office Action, claims 13-22 and 27-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by Rice et al. (U.S. Patent No. 5,477,975). The Applicant respectfully disagrees with this rejection and, therefore, respectfully traverses the same.

Claims 13-22 and 27-29 are patentably distinguishable over Rice et al. because the claims recite a plasma chamber temperature control that combines a number of features including, among other features, a plurality of first temperature controllers in thermal communication with the plasma chamber wall, each defining at least one fluid conduit therethrough and a plurality of second temperature controllers in thermal communication with the plasma chamber wall, being disposed adjacent to the plurality of first temperature controllers, and being thermoelectric devices. Rice et al. does not describe each and every one of the features as recited by claims 13-22 and 27-29. Accordingly, Rice et al. cannot anticipate the claims now being examined.

Rice et al. describes a plasma etch apparatus 10 having a cylindrical quartz side wall 20 that supports an overlying discoid cooling element 65. (Rice et al. at col. 3, lines 37-50.) Coolant is circulated through the overlying discoid cooling element 65 through water jackets 66 by a pump 67. (Rice et al. at col. 3, lines 44-50.) A helical cylindrical antenna coil 70 is wrapped around the cylindrical quartz side wall 20 and is connected to an RF energy source 75 that provides the inductive coupling energy to the plasma in the chamber 10. (Rice et al. at col. 3, lines 50-56.)

In order to maintain the temperature of the interior surface 20a of the quartz sidewall well above 170°C, a heating element 120 rests in the interior of the ceramic cover 77 near the bottom of the quartz side wall 20. (Rice et al. at col. 3, lines 62-67.) The heating element is preferably a cable heater. (Rice et al. at col. 3, line 67, through col. 4, line 2.) A second heating element or cable heater 140 may be placed near the top of the quartz side wall 20,

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such that the two cable heaters 120, 140 are operated at 550 watts. (Rice et al. at col. 4, lines 10-12.)

The ceiling 45 of the chamber 10 is crystalline silicon heated by an overlying heating element 50 connected to a temperature-controlling heat source 55. (Rice et al. at col. 3, lines 42-44.) As noted above, the quartz side wall 20 supports an overlying discoid cooling element 65 in which coolant is circulated. (Rice et al. at col. 3, lines 44-49.)

The Applicant respectfully points out that the Examiner's interpretation of Rice et al. appears to be based on an erroneous interpretation. Specifically, at paragraph 3 of the Office Action, the Examiner asserts that the plasma chamber includes a plurality of temperature control systems 70 in thermal communication with the chamber inner wall 20. This appears to be incorrect since reference number "70" refers to the helical cylindrical antenna coil 70, not a temperature control device. The Applicant respectfully points out that the heating elements are the cable heaters 120, 140, as noted above. It appears that the only heating elements in the wall 20 are those two cable heaters 120, 140.

Accordingly, the Applicant respectfully points out that Rice et al. does not describe a plasma temperature control that includes, among other features, first temperature controllers in thermal communication with the plasma chamber wall, each defining at least one fluid conduit therethrough. Moreover, Rice et al. does not describe, among other features, second temperature controllers in thermal communication with the plasma chamber wall, adjacent to the first controllers, and comprising thermoelectric devices. As a result, Rice et al. fails to describe at least two of the features recited by claims 13-22 and 27-29. Accordingly, Rice et al. cannot anticipate the claims. The Applicant, therefore, respectfully requests that the Examiner withdraws the rejection of claims 13-22 and 27-29.

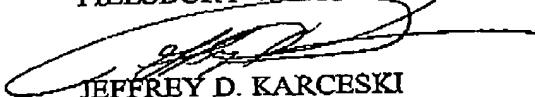
Each of the objections and rejections having been addressed, the Applicant respectfully requests that the Examiner withdraw the objections and rejections and pass this application quickly to issue.

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Respectfully submitted,

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